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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
BONSHOCK, DENNIS G

ART UNIT	PAPER NUMBER
2173	14

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *16 and 17* is/are allowed.

6)☒ Claim(s) *1-15,18 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   It is hereby acknowledged that the following papers have been received and

placed on record in the file: Amendment C as received on 04-16-2004.

2.   Claims 1-19 have been examined.

Status of Claims:

3.   Claims 16 and 17 where said to be allowable in the previous action.

4.   Claims 1-15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jeong, Patent # 6,348,928 and Lyons et al., Patent # 6,176,782,

hereinafter Lyons.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Jeong, Patent # 6,348,928 and Lyons et al., Patent # 6,176,782, hereinafter Lyons.

7.   With regard to claim 1, Jeong teaches a video display screen that automatically

pivots to face the user (see column 1, line 35), and measures the position of the user

relative to the viewing region (see column 1, line 62 and in figure 3). Jeong, however,

doesn't teach the use of an image capturing device, or image recognition software.

Lyons teaches a motion-based display similar to that of Jeong, but further teaches the

use of camera for taking an image of the user (see column 1, line 22), and a vision recognition part (see column 4, page 50). It would have been obvious to one of ordinary skill in the art, having the teachings of Jeong and Lyons before him at the time the invention was made to modify the automatic rotating visual display of Jeong to include the ability to judge the location of the viewers via a visual recognition system, of Lyons. One would have been motivated to make such a combination because a vision recognition system can function in some environments where the use of a heat sensing system would be unusable. In both systems a user in a three-dimensional space controls functions of a screen by their movements, which are conveyed to the device through a sensing unit or sensing units.

8.   With regard to claim 2, and in reference to what was previously rejected in claim 1, Lyons further teaches that the display could be projection compatible. In column 1, line 35, Lyons teaches that the system is arranged to compare the camera-recorded image with the original image fed to the projector.

9.   With regard to claim 3, and in reference to what was previously rejected in claim 1, Jeong further teaches that the display screen can be a screen in a home theater system. In column 1, line 6, Jeong teaches the automatic rotation of a TV stand.

10.   With regard to claim 4, and in reference to what was previously rejected in claim 1, Jeong further teaches that the display adjusts so that the normal to the display screen faces the user. In column 1, line 62, Jeong teaches that the central axis of the display screen of the visual display unit be placed at the center of the discriminated angle.

11.   With regard to claim 5, and in reference to what was previously rejected in claim 4, Lyons further teaches that there be a measurement based on the pose of the users face. In column 8, line 28, Lyons teaches that the use of the position of the eye (which is given offset from the head portion) and the hand to find what a gesture is referring to.

12.   With regard to claims 6 and 7, and in reference to what was previously rejected in claim 5, Jeong further teaches that there is a measurement of an angular displacement of the user with respect to the reference axis and that the control unit rotates the display screen the normal vector to the display screen has the angular displacement of the user with respect to the reference axis. In column 1, line 62, Jeong teaches performing an arithmetic operation so as the central axis of the display screen of the visual display unit be placed at the center of the discriminated angle, and then rotating the display screen of the visual display unit according to the result of the arithmetic operation.

13.   With regard to claim 8, and in reference to what was previously rejected in claim 4, Lyons further teaches that there is a measurement determined by the position of the user in and image, by image recognition software. In column 4, lines 50-44, Lyons teaches that the vision recognition part determines the current pose of the user and calculates the position of the pointing hand of the user (this could not be done without the use of some image recognition software).

14.   With regard to claim 9, and in reference to what was previously rejected in claim 8, Jeong further teaches that there be a measurement that is an angular displacement of the user with respect to a reference axis. In column 1, line 62, Jeong teaches

performing an arithmetic operation so as the central axis of the display screen of the

visual display unit be placed at the center of the discriminated angle, and then rotating

the display screen of the visual display unit according to the result of the arithmetic

operation.

15.   With regard to claim 10, and in reference to what was previously rejected in claim

9, Jeong further teaches that there is a control unit that rotates the display so that the

normal vector has an angular displacement of the user with respect to the reference

axis. In column 1, line 62, Jeong teaches performing an arithmetic operation so as the

central axis of the display screen of the visual display unit be placed at the center of the

discriminated angle, and then rotating the display screen of the visual display unit

according to the result of the arithmetic operation.

16.   With regard to claim 11, and in reference to what was previously rejected in claim

1, Jeong further teaches that the control unit identifies two of more users and records

their average position. In column 4, line 10, Jeong teaches sensing the position of both

viewers and then making maximum angle there between.

17.   With regard to claim 12, and in reference to what was previously rejected in claim

11, Jeong further teaches rotating the screen to face the two of more users recorded

average position. In column 4, line 10, Jeong teaches sensing the position of both

viewers and then making maximum angle there between, and in column 1, line 36,

rotating the screen accordingly.

18.   With regard to claim 13, Jeong teaches a video display screen that automatically

pivots to face the user (see column 1, line 35). Jeong, however, doesn't teach the use of

an image-capturing device, image recognition software, or adjusting the orientation of

the display screen based upon the identified gesture of the user in the image. Lyons

teaches a motion-based display similar to that of Jeong, but further teaches the use of

camera for taking an image of the user (see column 1, line 22), a vision recognition part

(see column 4, page 50), and the ability for the system to react to the user giving a

gesture (see column 1, line 10). With regard to the image capturing means: It would

have been obvious to one of ordinary skill in the art, having the teachings of Jeong and

Lyons before him at the time the invention was made to modify the automatic rotating

visual display of Jeong to include the ability to judge the location of the viewers via a

visual recognition system. One would have been motivated to make such a

combination because a vision recognition system can function in some environments

where the use of a heat sensing system would be unusable. With regard to the ability

to capture gestures: It would have been obvious to one of ordinary skill in the art,

having the teachings of Jeong and Lyons before him at the time the invention was made

to modify the automatic rotating visual display of Jeong to include gesture recognition of

Lyons. One would have been motivated to make such a combination because this

would allow the user to select somewhere other than him self as a place to focus the

video. In both systems a user in a three-dimensional space controls functions of a

screen by their movements, which are conveyed to the device through a sensing unit or

sensing units.

19.   With regard to claim 14, and in reference to what was previously rejected in claim 13, Lyons further teaches that one or more gestures are hand gestures. In column 1, line 10, Lyons teaches allowing the user to physically point to perform an action.

20.   With regard to claim 15, and in reference to what was previously rejected in claim 14, Lyons further teaches that each hand gesture is correlated to a movement. In column 5, line 15, Lyons teaches the use of a specific hand gesture corresponding to a particular operation.

21.   With regard to claim 18, Jeong teaches a video display screen that automatically pivots to face the user (see column 1, line 35), and measures the position of the user (see column 1, line 62). Jeong, however, doesn't teach the use of an image capturing device, or image recognition software. Lyons teaches a motion-based display similar to that of Jeong, but further teaches the use of camera for taking an image of the user (see column 1, line 22), and a vision recognition part (see column 4, page 50). It would have been obvious to one of ordinary skill in the art, having the teachings of Jeong and Lyons before him at the time the invention was made to modify the automatic rotating visual display of Jeong to include the ability to judge the location of the viewers via a visual recognition system, as did Lyons. One would have been motivated to make such a combination because a vision recognition system can function in some environments where the use of a heat sensing system would be unusable. In both systems a user in a three-dimensional space controls functions of a screen by their movements, which are conveyed to the device through a sensing unit or sensing units.

22.   With regard to claim 19, which teaches the control device detecting one or more

additional viewers in the viewing area, the control device being further configured to

invoke an adjustment of an orientation of the display screen based upon the relative

positioning of all of the viewers within the viewing area, Jeong further teaches, in

column 4, lines 40-46 and figure 3, the discrimination unit sensing the position more

than one user and the screen being positioned to face both viewers.

REASONS FOR ALLOWANCE

23. The following is an examiner's statement of reasons for allowance:

24.   The examiner considered the Applicant's Amendment B filed on 02-25-04, and

after updated search, no other prior art of record has taught that which was allowed in

the advisory action.

25.   Therefore, claims 16 and 17 were determined to be allowable

26.   Independent claim 16 when considered as a whole, is allowable over the prior art

of record. Specifically the prior art of record fails to clearly teach or support the

limitation of rotating a screen based on the reception of audio commands, spoken by a

user, at a speech recognition software device.

27.   Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Response to Arguments

28.   The arguments filed on 04-16-2004 have been fully considered but they are not

persuasive. The reasons are set forth below.

29.   The applicant's argue that neither Jeong or Lyons teach the software of the

control unit generating at least one measurement of the position of the user relative to

the viewing region.

30.   In response, the examiner respectfully submits that Jeong teaches in column 1,

lines 50-61 and in figure 3, a sensing unit for sensing the position of an object and an

discrimination unit for receiving an output signal from the body temperature sensing unit

and discriminating a range (angle) with which the body temperature is sensed (where

this angle is shown relative to the unit.

31.   With respect to the applicant's argument, that neither the Jeong nor Lyons

references disclose or suggest a control unit having image recognition software that

identifies the user in an image generated by the image capturing device and suggest

the control unit invoking an adjustment of the orientation of the display screen based

upon the orientation of the user within the viewing region.

32.   In response, the examiner respectfully submits that Lyons does teach this

limitation; in it's vision recognition part that captures an image and performs a

processing step, which adapts the movements to the software (see column 4, line 50).

Jeong further teaches the limitation, when he states that the display is automatically

rotated based upon the location of the viewer" (see column 1, line 35). Rotation based

on the position requires some sort of controller.

33.   With respect to the applicant's argument, that neither the Jeong nor Lyons references disclose or suggest a control unit having image recognition software that identifies one or more gestures and the control unit invoking an adjustment of the orientation of the display screen based upon the orientation of the user within the viewing region.

34.   In response, the examiner respectfully submits that Lyons does teach this limitation; in it's vision recognition part that captures an image and performs a processing step, which adapts the movements to the software (see column 4, line 50), where these movements can be to a specific body position such as moving to a position where the user is pointing to an object (see column 1, line 64 through column 2, line 8). Jeong further teaches the limitation, when he states that the display is automatically rotated based upon the location of the viewer" (see column 1, line 35).

Conclusion

35.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis G. Bonshock whose telephone number is (703) 305-4668. The examiner can normally be reached on Monday - Friday, 6:30 a.m. - 4:00 p.m.

36.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (703) 308-3116. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

37.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

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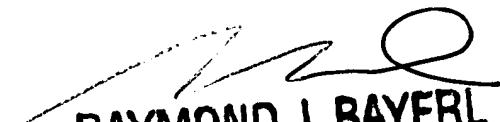
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